

Sustainable Engineering Trends Evidence Guide

NAME _____

DATE _____

PERIOD _____

Three changes affecting sustainable engineering work

Use the evidence as written. Do not turn a national median into local starting pay or a projection into a promise.

TREND	WHAT IS CHANGING?	WORK AND CAREERS AFFECTED	EVIDENCE AND LIMIT
Precision agriculture and drones	Farms can use sensors and drones to scout crops, monitor conditions, and support in-season decisions	Agricultural engineers, plant scientists, drone technicians, farmers	USDA research says these systems can support scouting and monitoring. Cost, calibration, accuracy, and profit still limit use.
More wind and solar installation work	Energy systems need workers who install, inspect, maintain, and repair equipment	Wind turbine service technicians; solar photovoltaic installers; engineers	BLS projects 50% wind-tech growth and 42% solar-installer growth from 2024-34. These are national projections for occupations with different job counts.
Water systems need specialized workers	Communities must operate and improve drinking-water and wastewater systems while technology changes the work	Environmental engineers, water and wastewater operators, technicians	EPA says advanced technology increases the need for specialized skills. BLS lists Environmental Engineers at 4% growth and about 3,000 openings each year for 2024-34.

SOURCE/DATE KEY

- USDA Agricultural Research Service, “Unmanned Aerial Systems for Agriculture and Natural Resources.”
- U.S. Bureau of Labor Statistics, Occupational Outlook Handbook; May 2024 pay and 2024-34 outlook, accessed August 2026.
- U.S. Environmental Protection Agency, Water Infrastructure Sector Workforce.

Read across sources

WHAT THE GUIDE CAN SUPPORT

- A technology can change what workers monitor, repair, install, or decide.
- A high growth percentage and a large number of annual openings are different measures.
- Preparation routes differ. Some roles commonly require a bachelor's degree; others use technical training and on-the-job learning.
- Sustainable engineering includes tradeoffs. A tool may save time or improve information while adding cost, training, maintenance, or accuracy concerns.

WHAT THE GUIDE CANNOT PROVE

- that every listed occupation is available near one student's home;
- that a student will earn the median pay when beginning;
- that one pathway guarantees a credential, job, or college admission;
- that technology will replace every older work method; or
- that the occupation with the fastest growth is automatically the best fit.

VOCABULARY

Societal trend: a broad change in how people live, work, use resources, or solve shared problems.

Emerging work: a new specialty or a changing set of tasks inside an occupation.

Projection: an estimate based on current evidence, not a guarantee.

Tradeoff: gaining one benefit while accepting a cost, risk, or limit.

Parent occupation: the broader BLS occupation used when an exact new specialty does not have its own data page.